

MEMORANDUM

DATE: June 12~~0~~, 2015

TO: Heather Kendall-Miller, Native American Rights Fund

FROM: Allison MacEwan, Principal Engineer, RIDOLFI Inc.

SUBJECT: Review Comments on Chuitna Coal Project Documents

Introduction

Ridolfi has conducted an initial review of the following documents submitted by PacRim Coal, LP (PRC) for the Native American Rights Fund (NARF):

- Agency Comments on PacRim's September 2013 Draft Wetland and Waterbody Functional Assessment for the Chuitna Coal Project and PacRim Responses
- Chuitna Coal Project Revised Draft Wetland and Waterbody Functional Assessment, December 24, 2014
- Chuitna Coal Project Jurisdictional Determination Report and Related Mapping, July 2014

General Comments

~~Intended uses of the Functional Assessment (FA) need to be specifically stated, so that the appropriateness of the functions and their definitions and the completeness of the analysis can be evaluated~~

The geographic boundaries of the FA Boundary ~~should~~~~needs to~~ be established, based on the intended uses of the assessment document and the anticipated extent of impacts associated with the proposed project. Wetlands and water bodies adjacent to the project footprint could potentially be impacted by the project and the interruption of contiguous, intact habitat areas.

Wetland and waterbody functions related to the Tribal Cultural Landscape and cultural uses should be addressed by this FA.

The FA should address those areas proposed as stream mitigation sites, as the functionality in these wetlands or waterbodies may change as a result of mitigation that is part of the proposed coal project.

It appears that the extent of anadromous and resident fish presence and of direct and indirect fish habitat, or adjacent supporting habitat may be underrepresented in the FA, due to both lack of data and the way the FA is structured.

Streams provide functions for diverse ecosystems other than fish habitat

Existing wildlife habitat studies do not cover the full FA study area and significant data gaps remain that may lead to underestimation of those areas providing wildlife functions. Also it is unclear whether the habitat ratings contained in the ABR Wildlife Protections Plans were independently reviewed and verified.

The FA indicates that a standard suite of ecological functions was used, yet this contention is not substantiated. Documentation of agency meetings held in 2012 to address FA methodology and scope should be provided for review and included in the administrative record.

In the previous 2008 draft of the FA, it was noted (on page 4) that "The FA will acknowledge ubiquitous functions as present and valuable and will account for them in results." In both the 2012, 2013, and the current FA report draft, it is unclear whether how these ubiquitous functions will-behave-been accounted for in this baseline assessment.

Under the current FA approach, wetlands and waterbodies providing functions that levels below the selected threshold value are not accounted for in the baseline assessment and, as a result, would not be mitigated for if impaired by the proposed project. All impairments to wetland and waterbody functions should be recognized and mitigated. How will the current FA methodology and structure accomplish this?

An analysis should be conducted using GIS that examines the sensitivity of the FA results as they relate to the selection of specific functional thresholds that were somewhat arbitrarily derived from best professional judgment.

Why are estuarine areas and intertidal receiving waters in Cook Inlet not included in the FA study? These areas provide habitat for anadromous fish species as well as other fish and wildlife.

Were the classifications and polygons used in the July 2014 Chuitna Coal Project Jurisdictional Determination Report the same as those used in this FA? The linkages between the two documents should be clearly established.

Review of PacRim Responses to Agency Comments

In most cases the comment response status provided by PacRim is listed as "fully addressed". However, in many cases, no changes were made between the 2012 and 2013 versions of the FA document PacRim made no change to the document. Ridolfi's specific observations related PacRim's Responses to Agency Comments and are noted below:

Comment 1 – U.S. Environmental Protection Agency (EPA): The limited extent of existing wildlife habitat function mapping does not allow evaluation of wildlife habitat functions (Habitat for Bird Species of Conservation Concern, Wildlife Species Richness and Essential Habitat) for the full FA area, including the groundwater drawdown area. PacRim indicates that EPA's comment has been fully addressed, but rather it appears to-be-noted-with no changes were made.

Comment 2 - EPA: EPA requested that information on baseline conditions of any wetlands or waterbodies proposed as receiving waters be provided to evaluate the effects of dewatering discharges. PacRim states that characterizing receiving waters that are outside of the project footprint is beyond the scope of the analysis is beyond the scope of the FA, and no change was made. The scope of the FA could be expanded

to include those receiving waters located outside the project footprint, as these water bodies could potentially be impacted by the project.

Comment 3 – EPA: No change was made in response to this comment, and the comment does not appear to have been fully addressed. Currently areas that provide indirect fish habitat do not appear to be comprehensively addressed in the FA. PacRim notes that “the agencies and PacRim agreed in meetings in 2012 that the fish functions would be defined as the in-water areas directly used by fish”. PacRim also contends that indirect fish habitat is addressed by the current suite of functions presented in the FA. Ridolfi reviewed the 2012 conference call minutes that are available on the SEIS extranet site. These conference call minutes available on the SEIS extranet site do not mention any such agreement. These conference call minutes do indicate that discussions related to the FA methodology were addressed by a wetlands subgroup. These meeting notes are not currently posted on the extranet site. The 2014 FA document indicates that the U.S. Army Corps of Engineers (USACE) hosted meetings on January 26, February, 16, October 5 and 16, and November 21, 2012. These meeting notes should be posted on the extranet site.

Comment 4 – EPA: Comment 4a was not addressed by PacRim. It appears that the FA remains limited in its ability to identify those wetlands that receive overbank flows and provide fish habitat.

Comment 5 – EPA: Comment was not addressed. PacRim fails to establish a comprehensive category for anadromous fish habitat in the FA that includes anadromous Lamprey habitat area along with anadromous salmonid habitat. Rather it groups anadromous Lamprey habitat along with residential fish habitat. This division is potentially problematic because the FA forms the basis for establishing those areas categorized as Category I wetlands and the corresponding mitigation ratios that would be required for this habitat. Category I wetlands should include those areas providing anadromous fish for both salmonids and Lamprey.

Comment 6 – EPA: No change made, but the methodology does appear to be clarified. PacRim’s Response appears to be satisfactory. This response highlights a limitation of conducting the FA on a landscape scale.

Comment 7 – EPA: PacRim’s response that “There is no evidence to suggest that the wetlands identified as locations of groundwater discharge (low in the landscape) also infiltrate water to a deeper groundwater table to any substantial degree” is unsubstantiated and points to a limitation in the FA methodology.

Comment 8 – Alaska Department of Natural Resources (ADNR): The cComment related to the project footprint appears to have been addressed.

Comment 9 – ADNR: PacRim notes that “the other proposed stream mitigation sites are not within the FA area” and that “the existing functions of those sites can be analyzed later if that is determined to be necessary”. This issue should be tracked and addressed.

Comment 10-ADNR: Comment was not satisfactorily addressed. It points to the limitations of the scope of the ABR wildlife study and the limitations introduced into the FA by its heavy reliance on this study and failure to gather supplemental information on wildlife presence.

Comment 11 – ADNR: Comment was not satisfactorily addressed. Many tributaries remain unsurveyed and unsampled leaving information gaps that limit the ability to define the upstream extents of anadromy.

Comment 12 – ADNR: This comments has not been adequately addressed. Meeting notes from agency meetings in 2012 need to be provided. Waterbodies and wetlands that are important or critical to fish populations remain underrepresented in the FA document.

Comment 13- ADNR: Comment was addressed.

Comment 14- ADNR: Removing the referenced statement did not fully address the comment. It appears that the extent of fish habitat may still be underrepresented in the FA.

Comment 15- ADNR: Comment was addressed.

Comment 16- ADNR: Comment was not addressed. See nNotes related Comment 5 above.

Comment 17- ADNR: Comment was not fully addressed. The FA underestimates fish habitat, by limiting its assessment to areas of know u fish habitat. A means of quantifying and estimating the extent of additional undocumented fish habitat should be developed and incorporated into the FA.

Comment 18- ADNR: Comment was not addressed. The FA underestimates fish habitat, by limiting its assessment to areas of know fish habitat. A means of quantifying and estimating the extent of additional undocumented fish habitat should be developed and incorporated into the FA.

Comment 19- ADNR: Comment was not fully addressed. The FA remains limited in its ability to account for habitat that supports fish, such as wetlands that provide groundwater discharge near streams.

Comment 20 – ADNR: Comment was partially addressed. There are still many remaining data gaps related to the documentation of fish presence, particularly for those areas not addressed by the OASIS and ADF&G.

Comment 21 – ADNR: ~~Sentence has been reworded~~ Comment was addressed.

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Comment 22 – ADNR: Updated acreages have been reported, but are based on the limitations noted in the previous comments.

Comment 23 – ADNR: Comment was addressed.

Comment 24 – Native Village of Tyonek (NVT)/North Ecology: Comment was not addressed. PacRim contends that the use of the FA has not yet been determined and that the comment is pertinent to mitigation and not the FA methodology. However, the introductory material presented in Section 1.0, 2nd paragraph, of the FA notes that the “USACE requires a functional assessment (FA) for the Chuitna Supplemental EIS to present baseline information on the functions of wetlands and fresh waterbodies. The baseline information on functions will be used to analyze the impacts of the proposed action and alternatives on the aquatic resources and to determine mitigation requirements....” we believe that tThe

use(s) of the FA needs to be more clearly ~~defined at this time so~~ defined, so that the appropriateness of the FA methodology and extent of data collection can be more clearly evaluated.

Comment 25 – NVT/North Ecology: Comment was not fully addressed. Acreages of “low” functioning wetlands should be identified and addressed in both the FA and the mitigation plan.

Comment 26- NVT/North Ecology: Comment was not addressed. Citations of materials supporting this best professional judgment determination should be reported. An analysis should be conducted using GIS to examine the sensitivity of the FA results as they related to specific threshold selections derived from best professional judgment. Also, notes from the October 16, 2012 meeting should be provided.

Comment 27- NVT/North Ecology: Comment was not fully addressed. Meeting notes referred to in PacRim’s comment response should be provided. Threshold values remain arbitrary.

Comment 28- NVT/North Ecology: Comment was not addressed. Key wildlife species for subsidence or ecological keystone species are not addressed in the FA and habitat (wetlands and other) that supports these species is not evaluated.

Comment 29- NVT/North Ecology: Comments 29a and 29b were not addressed. Currently areas that provide indirect fish habitat do not appear to be comprehensively addressed in the FA. Anadromous habitat areas connected through peat pipes are not identified in the FA, due to lack of data. Comment 29c appears to be addressed. Minutes from agency meetings in January and February 2012 should be provided.

Comment 30- NVT/North Ecology: Comments were not addressed and no changes made. See notes on Comment #29 previous comment.

Comment 31- NVT/North Ecology: Rationale is explained, but buffer width was not increased. Points to limitation of this FA approach conducted on a landscape scale.

Comment 32- NVT/North Ecology: 32a was not completely addressed; removing the statement does not completely address the comment, as the role that wetlands throughout the watershed play with respect to groundwater discharge and recharge is not fully characterized. #2b is also not addressed. Review by “knowledgeable agency staff” is not synonymous to a comprehensive model verification and calibration process. A groundwater model verification and calibration report should be provided for review. Comment 32c. was noted but no change was made, as this methodology was cited as being “beyond the scope of an FA that is prepared to inform the Section 404 review process.

Comment 33- NVT/North Ecology: Comment was addressed.

Comment 34- NVT/North Ecology: Comment was not addressed. It is noted that the FA is being used to document the baseline condition and that indicators are likely to require modification to describe conditions during and after mining. The FA baseline needs to be established in a way that will allow for assessment of impacts and changes over time to be comprehensively assessed.

Comment 35- NVT/North Ecology: Comment was not addressed. See response to previous comment.

Comment 36 - NVT/North Ecology: Comment 36a was addressed. Comment 36b was not addressed. The FA should address areas being proposed as stream mitigation sites.

Comment 37 - NVT/North Ecology: Comment was not fully addressed. PacRim's response indicates that "most of these papers were reviewed for useful concepts during the development of the FA methods. However, none of the references are cited in the FA documents, so it does not appear that they were utilized or that they informed the FA.

Comment 38 - USACE: Comment was addressed. This points to the insufficiency of available data.

Comment 39 - USACE: Comment is noted as fully addressed, asks for follow-up by USACE to propose areas expected to be affected but not included in the FA area. Emphasizes need to establish the intended use of the FA in order to establish appropriate assessment boundaries for both direct and indirect effects areas.

Comment 40 - USACE: Comment awaits response from USACE to proceed. Request is to identify specific functions of peat that are not evaluated in the FA.

Comment 41 - USACE: Comment awaits response from USACE to proceed. Additional stream ecological functions to include in the FA need to be identified. Documentation of comments and agreements made by the interagency team that reviewed the FA in 2012 should be provided.

Comment 42 - USACE: Comment was addressed.

Comment 43 - USACE: Comment was not addressed. Goals of the FA use needs to be clearly defined and established.

Comment 44 - USACE: Comment was has been addressed. Have the cited references s in the FA document been checked by the USACE's 3rd Party Contractor?

Comment 45 - USACE: Comment was not fully addressed. Meeting minutes from January 26, February 16, October 15 and 16, and November 21, 2012 should be provided.

Comment 46 - USACE: Comment was has been addressed.

Comment 47 - USACE: Comment was not has not been fully addressed. The FA needs to establish a process for including and addressing functions that occur below a selected threshold levels, rather than saying that the function is not provided

Comment 46 - USACE: Comment was has been addressed.

Comment 47 - USACE: Comment was not fully addressed. PacRim's response states that the "conclusion would be that, if a wetland or waterbody is not ascribed the function, the function either is unlikely to occur at the site or it may occur at a relatively low level." Where is this clarification made in the FA report? How will the FA be able to be used to identify potential losses of functions that occur at a relatively low level so that they can be mitigated?

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Comment 48 – USACE: Comment was not fully addressed. Further guidance from the USACE has been requested by PacRim.

Comment 49 – USACE: Comment was not fully addressed. Additional detail regarding the information used to support the decisions made using best professional judgment should be provided. Notes from the October 16, 2012 meeting should also be provided. Were all of the Cooperating Agencies given an opportunity to provide input on the specific thresholds chosen for each of the functions listed in the FA?

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Comment 50 – USACE: Comment was not fully addressed. See notes for Comment #49. Also, the meeting notes referenced in PacRim's comment response should be provided.

Comment 51 – USACE: Comment 51a was addressed. Comment 51b was not fully addressed. PacRim's response notes that the "list of mammals used was presented to, discussed with, and agreed upon by the interagency team that reviewed the FA methodology in 2012. Documents of this discussion and agreement should be provided for review. Also, the rationale for focusing on select wildlife species in Section 3.5.2 and 3.5.3 should be presented in the FA.

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Comment 52 – USACE: Comment was not addressed. PacRim refers to information contained in the June 2008 Chuitna Project Infrastructure: Wildlife Protection Plan, Part D7-2, prepared by ABR, Inc. We assume that this document is contained in a previous ASCMCRA permit application. This document should be provided for review.

Comment 53 – USACE: Comment was addressed. The requested map is included in Appendix F.

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Comment 54 – USACE: Comment was not fully addressed. See notes provided for Comment #3.

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Comment 55 – USACE: Comment was addressed. The requested map is included in Appendix F.

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Comment 56 – USACE: Comment was not fully addressed. See notes provided for Comment #3.

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Comment 57 – USACE: Comment was partially addressed. PacRim's response to Comment #57a indicates that more guidance is needed for the USACE to determine how the observations should be quality controlled.

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Comment 58 – USACE: Comment #58a was not fully addressed. Documentation of the meetings, comments, responses as well as the Methods document of 2012 noted in PacRim's response to Comment #58a should be provided. Comment #58a remains unresolved. PacRim has requested further guidance from the USACE to guide the approach for differentiating between peat and non-peat wetlands in the FA.